IMPLEMENTATION OF LEARNING PROPENSITY ASSESSMENT DEVICE (LPAD) IN ASSESSMENT OF GIFTED STUDENTS

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Introduction

Dynamic assessment as interactive psychological and psychoeducational assessment is a rapidly developing approach and an increasing interest of practising psychologists and educator. Dynamic assessment only has begun to contribute to understanding, identifying and offers enormous opportunities to better understand learning processes and learning role in talent development.

This study is a short introduction to the basic ideas, principles and procedures of and the implementation of dynamic assessment. This study seeks to analyse how to combine traditional and dynamic assessment in assessment of gifted students, explore the possibilities to use Learning propensity assessment device (LPAD) as assessment procedure, better understand learning processes of gifted students and its role in talent development and achievement.

Why we choose gifted education? Firstly, current conceptions of giftedness or intelligence emphasizing potential also create the need for "techniques which assess not only current manifestability, but ascertain what the children concerned might be capable of. Secondly, the demand increases for finding students with potential to become gifted in the future, in addition to those who are already outstanding. Thirdly, dynamic assessment only recently entered into identification procedures and reseach in gifted education. So dynamic assessment is not new but not yet widely practiced and is still unknown to many psychologist and educators in Lithuania..

The activities, research and analysis seek to encourage practitioners to move beyond passive expression of interest to actually applying dynamic assessment. During the project researchers and teachers worked with the Feuerstein method, conducted the research and designed procedures of traditional and dynamic assessment in school in assessment of gifted students.

We are grateful to those who have inspired us. R. Feuerstein and his method has, of course, been an important catalyst for our work. Erasmus+ project “Feuerstein method implementation in school activities” was a platform were these activities and research were performed. We have learned a lot form our students, teachers, and parents. Most of all, we have learned important lessons from our work and students we have assessed. They have our sincere gratitude.

1. Dynamic assessment in gifted education: realizing potential

1.1. Traditional vs dynamic assessment

The modifiability of intelligence has been a recurring theme in psychology. At the beginning of the 20th century, in 1905, A. Binet and his colleagues produced the first intelligence test for children. Binet's test, restricted to academic intelligence rather than broader forms of intellectual functioning, represented a means of comparing the mental level of these examinees with the same aged peers. On the basis of this measure, the suitability of the child for schooling was derived. The test was focused primarily on the child's past learning rather than their capacity for learning (Elliot, 2003).

Traditional measures of intelligence are characterized as static, normative, and standardized:

- **static** because they are designed to assess performance at a certain specific moment, with no attempt to change that performance;
- **normative** because a child's score is compared to that expected to be earned by an 'average' individual in the norm group;
- **standardized** because standard procedures used to administer the tests and interpret the scores have been followed (Haywood et al., 1990).

Tests can be part of the process, however, they provide a restricted view of the individual's potential. As early as the 1920s psychologists and others espoused ideas about optimal approaches to the assessment of intelligence that sounded very much like dynamic assessment. Dearborn (1921) and Henmon (1921) were a couple of the early researchers who argued that intelligence was modifiable and that learning capacity ought to be considered a prime index of intelligence. Buckingham (1921) and Penrose (1934) suggested that the ideal test in the study of mental deficiency would be the one which investigates the ability to learn. Dearborn (1921) mentioned that "most tests nor in common use are not tests of the capacity to learn but are tests of what has been learned" and later, "individual tests involving actual learning rather than results of learning are needed". These ideas are echoed well into the 1980s (C. Lidz, 1989).

During the late 1960s challenges to traditional approaches to the assessment of intelligence became more profound and discussions of basic issues and assumptions began to appear. Psychologists have long expressed dissatisfaction with traditional models of assessment and observed that “the use of a change in an IQ test score as an indicator of change in a child’s level of cognitive functioning carries with it the assumption that this score is a relatively pure measure of the formal aspects of the child’s cognitive structure”. Standard tests analyse the student's level of performance, but provide no direct evidence regarding the processes that may have operated or failed to operate to bring about that performance. Therefore they provide at best a partial view of the testee’s status (Lidz C, 1987).

Traditional intelligence tests can answer questions related to a child's relative strengths and weaknesses when compared to age or grade-level norms; a score reflects what an individual knows as a result of past experience. In contrast, dynamic measures of learning potential involve supporting the child's efforts to perform the 'test' task. They are most “concerned with the different ways in which individuals who earned the same [static] score achieved that score” (Haywood et al., 1990).

Given their nature, standard tests rely heavily on the assumption that all testees have had comparable backgrounds and opportunities to acquire the information requested. The assumption is particularly damaging for students from minority or disadvantage backgrounds. With such populations, abilities are quite likely to be underestimated. The result is that the identifications goal of the evaluation is jeopardized (Campione J.C, Brown, 1987).

Traditional, 'static' intelligence tests have been found to underestimate the intellectual potential of culturally, linguistically, and socio-economically different children (Skuy, Kaniel & Tzuriel, 1988; Tellegen & Laros, 1993; Frasier & Passow, 1994). The individuals' test scores were reduced by gaps in knowledge rather than ability because they had not had equivalent opportunities to learn information derived from mainstream culture represented in the tests' items (in Kanevsky, 2000). A. R. Jensen was among the first of the cognitive researchers to address the differences in results in traditional measures of members of ethnic minorities with proposal for dynamic alternatives. As early as 1961 and later estimations of the abilities of low – socioeconomic status minority (SES) children with higher level cognitive functions (Level II) were the most susceptible to environmental experiences. Educational psychologists have come to recognize the many flaws in IQ measures, their tendency to lack an empirically supported theoretical frameworks, the limited relationship between scores and instructional practices) their emphasis upon products rather than psychological processes, their tendency and cultural

bias and their inability to guide clinicians in deriving specific interventions for educational difficulties (in Kanevsky, 2000).

Dynamic assessment represents an approach that seeks to overcome many of the above difficulties. Theoretically driven, these measures seek to examine cognitive processes that are important for learning; they are seen as far more sensitive measures for minority populations and they have potential (Lidz, 1987; Elliot, 2003).

This situation stimulated a search for alternatives that more accurately assessed the dynamic that contributes to intellectual development rather than products based on experience. Current conceptions of giftedness or intelligence emphasizing potential (e.g. Tannenbaum, 1983) also create the need for "techniques which assess not only current manifest ability, but ascertain what the children concerned might be capable of" (Skuy et al., 1988). The demand increases for finding students with potential to become gifted in the future, in addition to those who are already outstanding (Kanevsky, 2000).

Dynamic assessment has been used extensively in work with students who are young, culturally different, disadvantaged or learning disabled and only recently entered into identification procedures and research in gifted education (Lidz, 1987, Haywood & Tzuriel, 1992) (in, Kanevsky, 2000).

1.2. Why do we need Dynamic Assessment?

Dynamic assessment is a methodology, not a complete identification procedure; it can act as one dimension of a multi-dimensional identification procedure. The term 'dynamic assessment' includes a range of methods and materials to assess this potential for learning, rather than a static level of achievement assessed by conventional tests.

Dynamic assessment allows for the fact that children with identical competencies on static tests may profit differentially from instruction and provides information that could be used in the creation of intervention programs to facilitate the child's development. Its aim is to reveal an individual's maximum performance, by teaching or mediating within the assessment and evaluating the enhanced performance that results.

The dynamic aspects are evident in its format (pre test, teach/learn, post-test) and its commitment to nurturing and measuring change. Dynamic assessment focus on what children can learn (rather than what they do not know) and can be tailored to a child's unique personality and/or preferred learning styles. Dynamic assessments are domain-specific

indicators of learning ease, not general measures of ability (e.g. IQ tests) (Bolig and Day, 1993) (in Kanevksy, 2000).

Vygotsky (1978) believed that the sensitivity of an examinee's performance to external aids and cues is theoretically revealing of the examinee's learning potential. Vygotsky was particularly frustrated by this orientation. “Suppose I investigate two children upon entrance into school, both of whom are ten years old chronologically and eight years old in terms of mental development. Can I say that they are the same age mentally? Of course. What does this mean? It means that they can independently deal with tasks up to the degree of difficulty that has been standardized for the eight-year-old level. If I stop at this point, people would imagine that the subsequent course of mental development and of school learning for these children will be the same, because it depends on their intellect. Now imagine that I do not terminate my study at this point, but only begin it. These children seem to be capable of handling problems up to an eight-year-old's level, but not beyond that. Suppose that I show them various ways of dealing with the problem. Different experimenters might employ different modes of demonstration in different cases; some might run through an entire demonstration and ask the children to repeat it, others might initiate the solution and ask the child to finish it, or offer leading questions. In short, in some way or another I propose that the children solve the problem with my assistance. Under these circumstances it turns out that the first child can deal with problems up to a 12-year-old's level, the second up to a nine-year-old's. Now, are these children mentally the same?” (p. 85-86, in Kanevsky, 2000).

Most forms of dynamic assessment claim a connection to Vygotsky's work. Unfortunately, the Soviet political climate and Western psychometric orientation limited attention to his work until the 1970s. He proposed a construct, the zone of proximal development (ZPD; Vygotsky, 1978) to characterize the relationship between learning and development. A “ZPD is created by the interaction and is a function of the interaction” (Lidz, 1995, in a teaching/learning context (Kanevsky, 2000).

The notion of ZPD gives three important insights into the issue of dynamic testing:

1) It focuses our attention on those psychological functions that are emerging at a given time but have not yet been fully developed;

2) The concept of ZPD introduces assisted performance as a legitimate parameter of assessment procedure;

3) ZPD helps conceptualize the difference between actual performance and the learning potential of the child (Kozulin A., 2003).

Vygotsky believed that his interventional testing method opened a developmental window into the future, showing psychologists what would happen in the next phases of the child's development.

Similarly, Feuerstein (1979) believed that dynamic testing is more relevant to diagnosis education interventions that may be given to the examinee. Professor Reuven Feuerstein (Feuerstein, 1979; Feuerstein, Feuerstein, Falik and Rand, 2002), has stimulated a new field of thinking and activity in the area of the assessment of cognitive and intellectual functioning – dynamic assessment.

Vygotsky and Feuerstein's works are based on four assumptions:

1 Accumulated knowledge is not the best indication of one's ability to acquire new knowledge, although the two are highly correlated;

2 Everybody functions at considerable less than 100% of full capacity, therefore, everybody can do better;

3 The best test of any performance is a sample of that performance itself (Cronbach, 1970; Freeman, 1950);

4 There are identifiable obstacles to one's access to nd effective application of one's intelligence. Such obstacles include ignorance, impulsivity, cultural differences, poor self concept as learners, etc. (Haywood H. C. and Tzuriel, 2002).

Bolig and Day (1993) suggest teachers can use it to "determine what a child has already learned (i.e. pretest performance), how easily the child learns (i.e. the number of hints needed, the number of explanations required, or the amount learned from an instructional session), and how readily the child transfers newly acquired knowledge or skills following complete instruction" (Kanevsky, 2000).

So assessment based upon direct teaching intervention is not new. What new is:

- that there finally are realizations of the ideas that IQ tests do not reveal meaningful information about learning ability;
- that assessment needs to link diagnosis with treatment, that the outcome of assessment should need to link diagnosis with treatment, that the outcome of assessment should be an array of interventions with potential for direct application to instructions;
- and that children can be taught to become more competent learners (Lidz, 1978).

Traditional (static, normative) methods of psychological and psychoeducational assessment do not require or permit active intervention on the part of the examinee. Two words are of primary importance to the definition and conceptualization of dynamic assessment:

activity and modifiability, i.e. the examiner and the learner both are active. The examiner is an active intervener who monitors and modifies the interaction with learner in order to induce successful learning. The learner is prodded, directed and reinforced into a role of active seeker and organizer of information. The product of assessment is modifiability or change in the cognitive functioning of the learner, presumably positive change (C. Lidz, 1978).

Bolig and Day (1993) have summarized the ways in which dynamic assessment addresses concerns related to traditional intelligence tests:

1. Dynamic assessment allows for the fact that children with identical competencies on static tests may profit differentially from instruction.
2. Dynamic assessment provides information that could be used in the creation of intervention programs to facilitate the child's development.
3. Dynamic assessment techniques were developed to overcome biases against minorities induced by traditional intelligence tests.
4. Dynamic assessments focus on what children can learn (rather than what they do not know) and can be tailored to a child's unique personality and/or preferred learning styles.
5. Dynamic assessments are domain specific indicators of learning ease, not general measures of ability (e.g. IQ tests) (p. 111-112, Kanevsky, 2000).

Tests can be a part of the process, however, they provide a restricted view of an individual's potential. Both static and dynamic measures are necessary when generating a diagnostic profile for a student and both can make valuable contributions to identification and education (Kanevsky, 2000).

1.3. Learning propensity assessment device (LPAD) as one of possibilities of dynamic assessment

Professor Reuven Feuerstein (1921-2014) was a clinical, developmental and cognitive psychologist. In the 1950s and 60s professor Feuerstein served as the Director of Psychological Services of Youth Aliyah in Europe. In this capacity, he was responsible for assigning prospective candidates for emigration to Israel to various educational programs in Israel. He discovered that when standard IQ tests were administered to Moroccan Jewish children they

did poorly, but if guided through the question-answer format by a mediator, the children's performance improved dramatically. This experience made Professor Feuerstein question current beliefs regarding the stability of intelligence, and posit that cultural differences in learning styles were the real issue. He developed new methods of evaluation and new teaching tools that searched for cognitive flexibility (the ability to learn) and built on those abilities (www.icelp.info).

For more than fifty years, the Learning Propensity Assessment Device (LPAD) remains in active use in clinical and educational settings and under continuous modification and development. Key to dynamic assessment is the focus on the learning process. It holds that essential human characteristics of intelligence and cognitive development are not fixed, immutable states of being – and therefore are not appropriately the subject of study by static methods of measurement. Feuerstein (1979) emphasized that a neutral, indifferent examiner in these situations only exacerbates the problem, whereas active involvement of the examiner, in the form of teaching, feedback, and reinforcement, builds confidence and activates the cognitive potential of the individual. Throughout testing, the examiner is concerned with the process by which the examinee produces the final response (Falik, L.H; Feuerstein R.S., 2005).

The underlying theory, the structure of the instruments of evaluation, and the procedures for administration, data gathering, formulating conclusions and recommendations, and implementing activities on the basis of the evaluation are based on a different paradigm of human development, that of the potential for modifiability .The LPAD shifts its focus from what the individual is able to do at a given moment in time to what the individual can become able to do, both in the immediate frame of time (at the time of the assessment) and in subsequent, future interactions. The interpretation of results in the LPAD also takes a significant departure from conventional instruments. On the LPAD, an individual's performance is not compared with that of others, but is compared with performance after intervention. The main focus of LPAD assessment – the amount and type of intervention needed to produce change in the individual's performance. All responses are significant and are regarded as indicators of capacities that for a number of reasons may not have been manifested in previous academic or testing situations.

This orientation has at least two important outcomes. First, the instrument permits an assessment of the individual's capacity to learn rather than just providing a measure of what the individual knows. Second, the examiner can determine the nature and locus of a failing response (Falik L.H., Feuerstein R.S., 2005).

Attention to isolated successful responses can also play a decisive role for the examinee in that the examinee gains confidence in his or her ability to solve problems and begins to believe that effort expended in solving problems will not be in vain. These departures from the traditional psychometric approach have resulted in an assessment tool that not only permits assessment and modification of deficient cognitive functions but also identifies non-intellective factors that are influencing performance. This ability to discriminate among cognitive and affective factors could prove to be important in the assessment of adults with learning difficulties (Falik L.H., Rand, 2002).

Dynamic assessment and LPAD as a welcome and needed alternative approach to the assessment of learning potential has been adopted and developed by a wide range of scholars and practitioners throughout the world.

THE AIM OF THE STUDY

Learning is complex and so is the problem of assessing it well. Dynamic assessment has been used extensively in work with students who are young, culturally different, disadvantaged or learning disabled and only recently entered into identification procedures and research in gifted education. Dynamic assessment is a methodology, not a complete identification procedure and can act as one dimension of multi-dimensional identification procedure. Dynamic assessment in ways is complementary to standard testing. Both static and dynamic measures are necessary when generating a diagnostic profile for a student and both can make valuable contributions to identification and education.

The purpose of the analysis to describe and analyse:

- how to combine traditional and dynamic assessment in gifted identification and assessment procedures;
- how to use LPAD tests as additional information about learning process and their role in talent development and achievement.

II. METHOD

2.1. PARTICIPANTS

51 student from 3 classes (26 males and 25 females), age ranging from 8.5 to 9.4 years, participated in the screening procedures of the gifted students.

28 students (16 males and 12 females), age ranging from 8.5 to 9.0 years, participated in the traditional and dynamic assessment procedures.

Information from 49 parents and 3 elementary school teachers was gathered and used in this research.

2.2 PROCEDURE

All students from 3 classes (n-78) participated in the screening process during the 2014-2015 school year.The traditional assessment of intellectual abilities and dynamic assessment were performed during the 2015-2016 school year. Phases of gifted identification and assessment procedures are presented in Table No 1..

Table. No. 1. Phases of reseach

1st phase. Screening	All students from 3 classes were invited to participate in this research. 51 agreement from parents consenting with the assessment were received. 51 students were assessed using Colored progressive matrices (CPM) test (J.C. Raven).
2nd phase. Traditional assessment of intellectual abilities	28 students were administered with Wechsler Intelligence Scale for Children Third Edition (WISC-III LT).
3rd phase. Dynamic assessment	28 students were assessed using LPAD (Learning propensity Assessment Device) instruments: Organizations of Dots (OD), Complex Figure Drawing Test (CFD), Organizer (ORG), 16 Word Memory Test, Lahi test (Feuerstein R., Feuerstein R. S., Falik L. H., 2008).

2.3. Instruments

2.3.1. The Colored progressive matrices (CPM) test (J.C. Raven).

Raven's Colored Progressive Matrices test consists of 36 matrices divided equally into three sets (A, AB, B). In each matrix, there are six choices (answer alternatives). The matrices in set A depend on the child's ability to complete the missing parts. The matrices in set AB depend on the child's ability to perceive the relationships and relations between the matrices and the six answer alternatives. The matrices in set B depend on the development of the child's ability in abstract thinking. The correct answer is given a score whereas the wrong answer is given 0 (zero). Scores on the test range between 0 and 36.

The norms that have been established in Lithuania can be used with confidence to evaluate the non verbal reasoning ability of Lithuanian children in the formal assessment or screenings (Gintiliene, Butkiene and Raven, 2008).

2.3.2. Wechsler Intelligence Scale for Children Third Edition (WISC-III)

The WISC-III (Wecsher, 1991) is widely used as a measure of general intelligence for children aged from 6 to 16 years. The WISC-III is organized into three IQ scores (Verbal, Performance, and Full Scale) that are divided into four factorial derived index scores including Verbal Comprehension, Perceptual Organization, Freedom from Distractibility and Processing Speed. Each of the IQ scores and factor indexes yield standard scores with a mean of 100 and a S.D. of 15.

The WISC-III is standardized on a sample of 453 children aged from 6 to 16 years in Lithuania (Girdzijauskiene, 2000).

2.3.3. Learning Propensity Assessment Device (LPAD)

(Group assessment)

The LPAD was developed by Feuerstein and his colleagues (1979). A dynamic assessment approach designed to assess learning potential, to reveal specific cognitive deficiencies and affective factors that may be affecting performance. 5 instruments were used to assess planning and organizing with grapho/ motoric component, abstract thinking, memory, attention and school skills (Feuerstein R., Feuerstein R. S., Falik L. H., 2008).

Organization of Dots

Organization of Dots is adapted from the ,,Organisation de Points‘‘ test constructed by Andre Rey (Rey and Dupont, 1953). This test requires the examinee to find two or more figures in an amorphous cloud of dots. To perform successfully, the examinee must be able to plan, to use a strategy, to compare figures, to recognize shape and size consistency and to deal with rotations, overlapping figures.

The scoring system: one point is given for each correctly drawn figure in each frame. Maximum score (Part A + Part B + Part C): 80 points. The scores are descriptive of performance and are not to be considered normative in any way (Feuerstein R., Feuerstein R. S., Falik L. H., 2008).

Complex Figure Drawing Test (CFD)

The Complex Figure Drawing Test is adapted from Rey (1959) and Osterrieth (1945). The task consists of reproducing a complex geometric figure directly from the stimulus and then from memory, before and after a mediational intervention.

The examinee is shown the design and is asked to copy it. The sequence of drawing is noted (examinee has to change colored pencils after approx. 45 seconds). After a few minutes the subject is asked to draw the same design form memory, with the same procedures used for noting the sequence of the drawing. Following the memory phase, a mediational phase is provided. After the mediation, the subject is asked to copy the drawing again form the stimulus (a second copy phase) and from memory (a second memory phase).

The CFD is scored quantitatively and evaluated qualitatively. Both systems are based on accuracy, precision and any changes that occur in reproduction and memory following mediation. The quantitative system involves 18 characteristics that are scored twice, once for accuracy of drawing and once for correct location (Feuerstein R., Feuerstein R. S., Falik L. H., 2008).

Organizer (ORG)

This instrument presents the subject with a series of verbal statements consisting of sets of items which must be organized according to a logical system. The subject is required to place the items (colors, objects, people, etc.) in positions relative to one another according to the attributes or conditions of the statement. A series of statements of premises are presented in each task. Each premise permits the extraction of only a part of the needed information required to determine a full and precise placement of the items. Mediational processes in this instrument seeks to enlarge the mental field to accommodate data and facilitate simultaneous elaboration.

Subject's performance in the ORG can be assessed in terms of the inferential processes used which present evidence of abstract, representational thinking and the observed capacity to master a given number of items involved in the production of interferences (Feuerstein R., Feuerstein R. S., Falik L. H., 2008).

Students were presented with 3 pretest tasks, 2 learning tasks and 8 post tasks and were scored one point for each correctly solved task.

16 Word Memory Test

This instrument presents the subject with a list of 16 well known and frequently encountered words, presented orally and in a conceptually random order. The subject is asked to repeat as many as can be recalled following the presentation of the list with latency period of approximately ten seconds. The subject is told that the process will be repeated several times, and the list is read aloud again in the same order. No mediation is provided for the first three or four repetitions. The examiner observes the subject's spontaneous recognition and inclusion in memory of the four categories (clothing, school supplies, animals, and vegetables) into which the 16 words can be grouped. After 3 repetitions, mediation is provided to encourage the memory process, using a variety of cues, both mnemonic and cognitive, until the subject can recall all or the majority of the list using internalized memory functions and achieve accuracy

and efficiency of response.

Students were asked to write their responses on separate trials and results were interpreted form the perspective of immediate memory (on the first trial, improvement from trial to trial, capacity for learning by direct exposure, gradual rates of improvement, stability and consistency and retrieval) and the subject's awareness of spontaneous categorization as a tool of memorization and recall (Feuerstein R., Feuerstein R. S., Falik L. H., 2008).

Diffuse Attention Test (Lahi)

This instrument was developed by Lahi from the work of Zazzo (1964) and used in the LPAD procedures to assesses the subject's rapidity and precision on a task that requires visual scanning and maintaining attention and focus on a visual/ moto and repetitive process.

The subject is presented with eight simple and repetitive figures that are isolated at the top of each section of the test page and are identified and "taught" as ones to differentiate. The subjects must then scan lines of 40 figures, comprising the eight figures presented in a random order, and mark the three model figures when they are perceived and identified.

The subject's performance is scored according to the number of figures scanned within a one minute interval; the number of correct figures omitted (omissions) and the number of incorrect figures marked (errors) and the patterns of performance (Feuerstein R., Feuerstein R. S., Falik L.H., 2008).

2.4. THE PROCESS OF ANALYZING DATA

The analysis in this research focuses on a case study of selecting and assessing gifted 2nd grade students from one school by using traditional and dynamic assessment. All data from screening, traditional and dynamic assessment procedures were analyzed as possibilities to use them in gifted assessment.

In the description of results and result analysis students were divided into 3 groups according to the WISC results. 1st group - IQ score 120 and higher (n-8); 2nd group - IQ score from 110 to 119 (n-12), 3rd group - IQ score from 90 to 109 (n-8). The results of CPM test and WISC-III and LPAD in each of the 3 groups were analyzed.

All data of the students' assessment were analyzed individually. 3 cases as examples with the tendency to perfectionism, learning disability, and self regulation were analyzed in this research.

III. RESULTS OF THE RESEARCH

3.1. The results of screening procedure

All students from 3 classes (n-78) participated in this research. 51 agreements (65%) from parents consenting with the assessment were received. These data show the importance to explain the aim and the benefit of the research to school, class and each student individually and to motivate parents, to gather as many agreements form parents as possible.

The Colored progressive matrices (CPM) test (J.C. Raven) was used in the screening procedure. Colored Progressive Matrices RPM test was administered to 51 student aged from 8.5 to 9.4 years. This sample consists of 26 females and 25 males. The results of the Colored progressive matrices (CPM) test are presented in Table No 2.

Table No. 2. The number of students according to the results of Colored progressive matrices (CPM) test

The percentile of CPM result	95 >	95	90	75-90	75	50	50-75	25	25-10	10	5 <
Number of students	6	10	5	5	2	8	5	4	4	1	1

28 students (55%, n-51) whose CPM result was 75 percentile and higher were selected to the second phase of the assessment. The percent of students in every class selected for the assessment procedure is presented in Picture No. X.

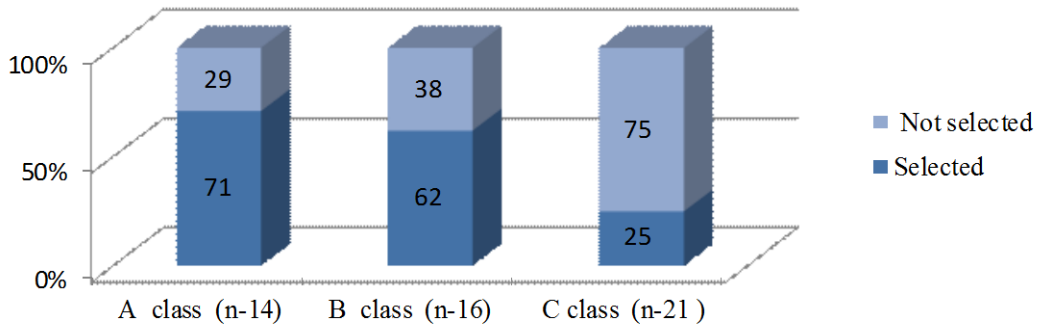


Figure 1. The percent of students in every class selected for the assessment procedure

28 students whose CPM result were 75 percentile and higher were selected to the second phase of the assessment. The sample consisted of 16 females and 12 males. The WISC-III was administered to 28 children aged 8.5-9.0 years who were screened for the assessment with Colored Raven progressive matrices test. In the description of results and result analysis students were divided into 3 groups according to the WISC results (1st group - IQ score 120 and higher (n-8); 2nd group - IQ score from 110 to 119 (n-12), 3rd group - IQ score from 90 to 109 (n-8).

The percent of students in each group and their results of CPM test results in percentiles are presented in picture No.2.

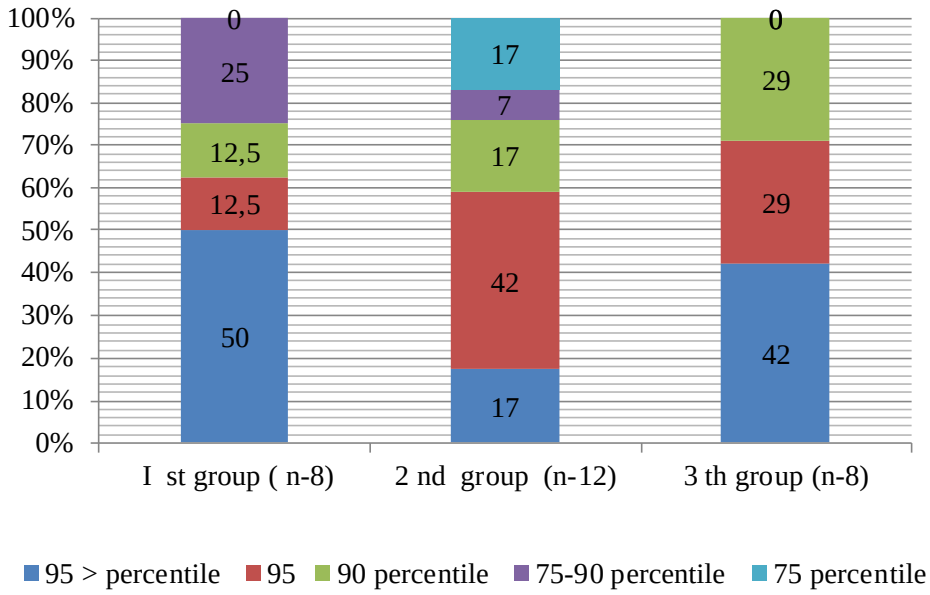


Figure 2. The percent of students in groups according CPM test results in percentiles (1st group - IQ score 120 and higher; 2nd group - IQ score from 110 to 119; 3rd group - IQ score from 90 to 109).

The students with the lowest scores of CPM (75 percentile and 75-90 percentile) in this sample are from the second group according to the WISC-III results. Data from the screening phase shows the importance to provide the possibility for all classes and for all the students in the class to participate as much as possible and later to use the lower cut off (CPM result 75 percentile and higher) and to consider and form a bigger "pool" of gifted students.

3.2. The results of traditional assessment of intellectual abilities

The WISC-III was administered to 28 children aged from 8.5 to 9.0 years who were screened for the assessment with Raven progressive matrices test. The results of WISC (Full scale IQ (FSIQ), Verbal IQ (VIQ), Performance IQ (PIQ) and four index scores: Verbal Comprehension (VCI), Perceptual Organization (POI), Freedom from Distractibility (FDI) and Processing Speed (PSI) of students in three groups (1st group - IQ score 120 and higher (n-8); 2nd group - IQ score from 110 to 119 (n-12), 3rd group - IQ score from 90 to 109 (n-8) are presented in the tables below.

Table No. 3. The results of WISC-III test of separate groups and students

1st group - IQ score 120 and higher (n-8)								
Student No.	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
FSIQ	**137**	**129**	**127**	**126**	**125**	**125**	**123**	**122**
VIQ	133	134	140	123	127	129	125	117
PIQ	138	119	105	132	119	118	116	125
VCI	131	135	134	125	127	130	124	115
POI	136	124	104	136	122	120	120	126
FDI	128	118	134	91	112	118	112	108
PSI	125	104	114	106	104	97	94	122

2nd group - IQ score from 110 to 119 (n-12)												
Student No.	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
FSIQ	**118**	**118**	**117**	**117**	**116**	**115**	**114**	**114**	**114**	**113**	**113**	**110**
VIQ	110	114	113	121	109	117	106	118	104	127	113	110

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
PIQ	124	119	119	110	121	110	121	107	124	94	110	109
VCI	108	118	112	123	111	114	108	115	106	131	117	113
POI	124	116	122	113	120	104	120	104	126	98	109	105
FDI	109	85	106	104	95	100	98	115	95	100	87	100
PSI	117	112	112	106	112	120	122	120	109	91	117	112

3rd group - IQ score from 90 to 109 (n-8)								
Student No.	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
FSIQ	**109**	**99**	**106**	**101**	**100**	**102**	**98**	**97**
VIQ	98	89	100	97	97	113	91	91
PIQ	109	121	112	113	104	103	107	106
VCI	113	100	89	103	98	101	115	98
POI	105	120	109	113	111	104	92	107
FDI	100	98	85	95	100	85	98	67
PSI	112	117	120	106	89	97	81	97

Table No.4. presents the means and standard deviations for the WISC-III IQ and index scores for this sample.

Table No. 4. The results of WISC-III IQ and index scores in 3 groups of students

	1st group (N-8)		**2nd group (n-12)**		**3rd group (n-8)**	
	Mean	*SD*	**Mean**	*SD*	**Mean**	*SD*
FSIQ	**126,75**	***4,68***	**115,25**	***1,86***	**102,14**	***3,97***
VIQ	**128,50**	*7,17*	**113,5**	*6,48*	**97,86**	*7,75*
PIQ	**121,50**	*10,15*	**114, 00**	*8,89*	**107,14**	*9,75*
VCI	**127,63**	*6,45*	**114,67**	*7,01*	**100,57**	*7,76*
POI	**124, 01**	*10,2*	**113, 01**	*9,26*	**108, 00**	*8,68*
FDI	**115,12**	*13,043*	**99,50**	*8,54*	**89,71**	*11,77*
PSI	**108,25**	*11,17*	**112,5**	*8,31*	**101, 00**	*14,24*

3.3. The results of academic achievements

During the assessment procedure information about students' achievements in school were gathered and evaluated. Results of academic achievements of students in separate groups are presented in Table No 5.

Table No. 5. Results of academic achievements of students in separate groups

1st group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Lithuanian language	H	H	H	B	H	H	B	H				
Mathematics	H	H	H	H	H	H	B	B				
Science	H	H	H	B	H	H	H	B				
2nd group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***
Lithuanian language	B	B	H	H	H	H	B	B	B	H	H	H
Mathematics	B	B	B	B	B	H	B	A	B	H	H	H
Science	B	B	B	B	B	H	B	A	B	H	H	H
3rd group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Lithuanian language	ST	ST	B	B	H	B	ST	B				
Mathematics	ST	ST	B	B	B	B	ST	B				
Science	B	ST	B	B	B	B	P	B				

Level of achievement – H - high, B – basic, ST- satisfactory

The data in the table shows that the number of students with high achievements is higher in the first and second groups than in the 3rd group (IQ score from 90 to 109) and there are students with very high intellectual abilities but their achievements are only on the basic level (student No. 4 from the 1st group).

3. 4. The results of LPAD

The assessment results from the Learning Propensity assessment Device as dynamic assessment procedures present a variety of cognitive learning tasks. The assessment looks for samples of change and retention of what is learned to indicate areas for cognitive modifiability and the need for meditational intervention.

Organization of Dots (OD).

The results of Organization of Dots (OD) of the three groups are presented in table bellow.

Table No. 6. The results of Organization of Dots (OD) of the three groups of students

1st group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Total score	76	77	78	78	76	49	71	76				
Percent of items solved correctly	95	*96*	*97*	*97*	*95*	*61*	89	95				
Time (in seconds)	20	*30*	*27*	*27*	*28*	*60 **	30	23				
2nd group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***
Total score	78	60	78	78	70	78	78	80	78	78	78	79
Percent of items solved correctly	97	80	97	97	87	97	97	100	97	97	97	97
Time (in seconds)	26	40	24	15	30	30	34	20	26	27	28	23
3rd group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Total score	51	12	54	74	70	60	*54*	*48*				
Percent of items solved correctly	63	15	67	92	87	80	68	60				
Time (in seconds)	60 *	22	60 *	25	60 *	46	60 *	60 *				

The data presented in the tables show that students from the 3rd group (with average intellectual abilities) needed more mediation and time to solve this task.

Complex Figure Drawing Test (CFD)

The results of Complex Figure Drawing Test (CFD) are presented in Table No X. The CFD can be scored quantitatively and evaluated qualitatively. Both systems are based on accuracy, precision and any changes that occur in reproduction and memory following mediation. The quantitative system involves 18 characteristics that scored twice, once for accuracy of drawing and once for correct location. The results of CFD test are presented in table No. 7.

Table No. 7. The Complex Figure Drawing Test (CFD) results of the three groups of students

1ST Group														
	C1F	**C1P**	**C1T**	**C2F**	**C2P**	**C2T**	**SD**	**M1F**	**M1P**	**M1T**	**M2F**	**M2P**	**M2T**	**SDM**
1	16	14	**33**	18	18	**36**	**3**	8	4	**12**	17	17	**34**	**22**
2	18	17	**35**	18	18	**36**	**1**	8	8	**14**	15	15	**30**	**16**
3	17	18	**35**	18	18	**36**	**1**	13	12	**25**	18	18	**36**	**11**
4	17	15	**32**	16	16	**32**	**0**	14	13	**27**	17	15	**32**	**5**
5	16	15	**31**	16	16	**32**	**1**	13	12	**25**	17	15	**32**	**7**
6	16	17	**33**	18	16	**34**	**1**	16	14	**30**	16	14	**30**	**0**
7	16	16	**32**	18	17	**35**	**3**	11	8	**19**	17	14	**31**	**14**
8	13	14	**27**	17	18	**35**	**8**	8	7	**15**	18	18	**36**	**21**
2nd group														
	C1	**C1**	**C1**	**C2**	**C2P**	**C2**	**SD**	**M1**	**M1**	**M1**	**M2**	**M2**	**M2T**	**SDM**
1	16	15	**31**	18	18	**36**	**5**	2	1	**3**	18	18	**36**	**33**
2	16	17	**33**	18	17	**35**	**2**	14	15	**29**	18	16	**34**	**5**
3	18	17	**36**	18	18	**36**	**0**	10	9	**19**	18	1	**35**	**16**

	C1	C1	C1	C2	C2P	C2	SD	M1	M1	M1	M2	M2	M2T	SDM
4	18	14	**32**	18	17	**35**	**3**	15	13	**28**	18	16	**34**	**6**
5	17	17	**34**	17	17	**34**	**0**	11	9	**20**	15	15	**20**	**0**
6	13	10	**22**	18	16	**34**	**12**	4	3	**7**	16	17	**32**	**25**
7	17	14	**31**	17	16	**33**	**2**	14	12	**26**	16	14	**30**	**4**
8	11	8	**19**	17	16	**33**	**14**	7	3	**10**	16	15	**31**	**21**
9	18	17	**35**	18	18	**36**	**1**	14	14	**28**	18	18	**36**	**8**
10	17	15	**32**	18	15	**33**	**1**	6	4	**10**	17	16	**33**	**23**
11	18	17	**35**	18	18	**34**	**-1**	17	15	**32**	18	18	**36**	**4**
12	16	16	**32**	18	16	**34**	**2**	11	7	**18**	18	16	**34**	**16**
3rd group														
1	16	15	**31**	16	16	**34**	3	11	9	**20**	15	15	**30**	**10**
2	15	15	**30**	16	15	**31**	1	14	14	**24**	17	15	**35**	**11**
3	17	15	**32**	17	16	**33**	1	7	3	**10**	14	7	**21**	**11**
4	17	14	**31**	17	16	**33**	2	14	12	**26**	16	14	**30**	**4**
5	18	18	**36**	18	17	**35**	-1	9	5	**14**	15	15	**30**	**16**
6	18	17	**35**	18	18	**34**	-1	17	15	**32**	18	18	**36**	**4**
7	17	14	**31**	17	16	**33**	2	15	13	**28**	18	16	**34**	**6**
8	15	15	**30**	16	15	**31**	1	6	4	**10**	17	16	**33**	**23**

C1F *first copy (figure),* ***C1P*** *first copy (position),* ***TC1****(total score first copying),* ***C2F*** *second copy (figure),* ***C2P*** *second copy (position),* ***TC2*** *(total score second copying), The score difference for coping (CDS), The score difference for memory (SDM),* ***M1F*** *first memory (figure),* ***M1P*** *first memory (position),* ***TM1****(total score first memory),* ***M2F*** *second memory (figure),* ***M2P*** *second memory (position),* ***TM2*** *(total score second memory copying)*

The data presented in Table No. 7 show that students from all groups need to be evaluated with CFD scores quantitatively and qualitatively, as high and low score gainers individually.

Organizer (ORG)

The results of Organizer (ORG) are presented in Table No. 8.

Table No. 8. The results of Organizer

1 st group / student	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Pretest score (number of item solved correctly)(	5	5	5	2	4	2	1	2				
Post test score (number of item solved correctly)	7	7	9	4	7	6	5	5				
2nd group/ student	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***
Pretest score (number of item solved correctly)(	3	*4*	4	1	3	*2*	*4*	*2*	2	4	4	4
Post test score (number of item solved correctly)	6	5	7	3	5	5	6	4	5	7	7	5
3 rd group/ student	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Pretest score (number of item solved correctly)(	2	3	3	3	1	1	1	1				
Post test score (number of item solved correctly)	3	4	4	5	3	3	2	2				

16 Word Memory Test

The results of 16 Word Memory Test are presented in Table No. 9.

Table No. 9. The results of 16 Word Memory Test in groups

1 st group / student	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
1 st trial (the number of words)	7	8	7	4	4	6	9	8				
2nd trial (the number of words)	14	14	13	6	10	10	15	13				
3 rd trial (the number of words)	15	15	15	10	10	12	12	12				
The number of words recall after the mediation	16	16	16	11	15	11	15	16				
With categories (+) / without categories (-) . partly +/-	+	+/-	+	+	+	-	+	-				

2nd group/ student	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***
1 st trial (the number of words)	6	6	7	6	7	9	6	10	6	4	7	7
2nd trial (the number of words)	8	12	13	10	8	13	12	11	12	12	11	11
3 rd trial (the number of words)	9	12	12	13	13	14	14	15	11	11	15	15
The number of words recall after the mediation	14	16	16	16	16	16	16	16	16	14	16	15
With categories (+) / without categories (-) . partly +/-	+	+	+	+	+	-	-	+	+	+/-	+/-	+/-
3 rd group/ student	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
1 st trial (the number of words)	5	6	9	6	7	5	7	6				
2nd trial (the number of words)	7	8	13	12	16	12	16	8				
3 rd trial (the number of words)	10	11	15	9	15	15	15	10				
The number of words recall after the mediation	10	15	15	9	16	16	16	15				
With categories (+) / without categories (-) partly +/-	+	+	+	+	+/-	-	+/-	-				

Lahi test

The results of Lahi test are presented in Table No.10.

Table No. 10. The results of Lahi Test in groups.

The number of figures scanned per minute	1	2	2	4	5	6	7	8	9	10	Mean
1st group											
1	45	49	33	49	49	25	67	39	38	42	43,44
2	35	26	27	15	30	35	44	34	40	34	31,66
3	56	54	42	63	44	55	50	53	53	54	52
4	38	47	37	41	41	45	52	34	48	47	43,55
5	45	41	43	43	40	40	46	36	39	56	42,66
6	45	48	27	33	34	43	9	39	43	40	35,11
7	45	48	41	55	67	48	65	45	45	55	52,11
8	85	60	68	68	67	65	65	56	61	57	63

2nd group	1	2	2	4	5	6	7	8	9	10	Mean
1	59	52	48	46	46	50	39	52	40	40	45,88
2	28	28	40	35	38	40	31	43	28	26	34,33
3	31	44	41	29	42	22	21	36	31	47	34,77
4	38	30	31	26	28	29	24	28	23	28	27,44
5	54	42	52	47	43	41	43	48	43	57	46,22
6	29	47	44	42	38	50	45	14	51	40	41,22
7	3	10	23	40	41	40	26	47	41	37	33,88
8	60	56	37	56	60	48	61	54	59	57	54,22
9	43	48	36	39	52	44	42	37	35	25	39,77
10	35	30	31	27	69	33	38	21	30	35	34,88
11	43	38	40	45	44	42	47	50	49	50	45
12	42	45	44	52	50	44	51	36	43	39	44,88
3rd group	1	2	2	4	5	6	7	8	9	10	Mean
1	43	35	32	26	41	34	36	32	36	57	36,55
2	71	59	62	54	49	55	56	54	48	57	54,88
3	31	44	41	29	42	22	21	36	31	47	34,77
4	51	45	49	25	28	32	35	59	40	35	38,66
5	21	19	32	32	37	27	28	30	39	39	31,44
6	42	51	30	28	32	35	34	30	29	39	35,00
7	40	46	45	50	51	49	47	50	51	48	47.71
8	36	26	35	43	32	29	28	32	33`	39	33,66

The assessment of academic skills

The results of the three groups for Mathematics and Writing tasks are presented in the table below. The results of academic skills are presented in Table No. 11.

Table No. 11. The results of academic skills of the three groups of students

1st group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Writing test (the number of mistakes)	0	0	4	30	3	4	9	2				
Mathematics (number of tasks solved correctly)	4	4	4	2	2	2	2	2				
2nd group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***
Writing test (the number of mistakes)	6	2	1	1	6	1	2	0	9	1	0	0

Mathematics (number of tasks solved correctly)	2	4	3	3	2	1	3	3	2	2	1	4
3rd group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***				
Writing test (the number of mistakes)	10	-	2	1	0	-	0					
Mathematics (number of tasks solved correctly)	0	-	2	1	1	-	1					

3.5. The results of individual students

This part of analysis presents the general results of 3 individual students with different educational needs. The first case is a student with very high intellectual abilities and perfectionism, the second – a student with learning disability, the third – a student with self-regulation problems.

3.5.1. Case of a student with very high intellectual abilities and perfectionism

Name: Adelė
Age: 8 years 11 months
Grade: 3

Information from teacher and parents. Adelė is a very good student, very responsible, seeking to learn new matters more than other children her age. She seeks to complete all tasks very carefully. Adelė wants to be the first among her classmates. She seeks knowledge, new information and challenges, but at the same time she feels anxiety and fear of challenges.Adelė is very sensitive. She distresses whenever things don't go well after the first try. She seeks approval from teachers and parents.

Adelė's level of achievement in Mathematics, Lithuanian language and Science is high.
The school skills assessment during the LPAD procedures: Adelė solved all Mathematics tasks correctly (4 of 4) and did only 2 mistakes in Writing test.

The results of WISC-III

VERBAL SCALE	Standard score		PERFORMANCE SCALE	Standard score
Information	13		Picture Completion	14
Similarities	16		Coding	16
Arithmetic	15		Picture Arrangement	14
Vocabulary	17		Block Design	19
Comprehension	16		Object Assembly	14
Digit Span	15		Symbol Search	13

Wechsler Intelligence Scale for Children (WISC-III)			
	Score	Percentile rank	Score range in 95% confidence intervals
Verbal IQ	133	99	123-138
Performance IQ	138	99	126-143
Full Scale IQ	137	99	129-141
Verbal Comprehension Index	131	98	122-136
Perceptual Organization Index	136	99	124-141
Freedom from Distractibility Index	128	97	114-133
Perceptual Organizational Index	125	95	111-130

The results of Full Scale IQ – score 137 – ranges in the 95% confidence interval (129-141) and shows that the level of general intellectual abilities is very high. There is no significant difference between the Verbal and Performance scale scores. Verbal and Performance skills are developed at the same level. There are no significant differences between the mean of the Indexes as well as among Verbal Comprehension Index, Perceptual Organization Index, Freedom from Distractibility Index and Perceptual Organizational Index. The highest score in Block design subtest (19) shows very high abilities of spatial visualization and nonverbal reasoning ability – the ability to analyze and synthesize visuospatial material – and the child's visual motor coordination.

Results of LPAD

Organization of Dots. *The subject is required to observe an amorphous cloud of dots and discover the four dots which make the square, and three dots which make up a triangle, going on to draw the figures so that they match the given model. This test demands compliance with the model, comparison, planning, strategy development, and graphic skills.*

Adelė drew the figures correctly (connected the dots appropriately). The result – 76/80 (including 1 spontaneous correction, 2 not correctly solved problems). Adelė completed the task in 20 minutes.

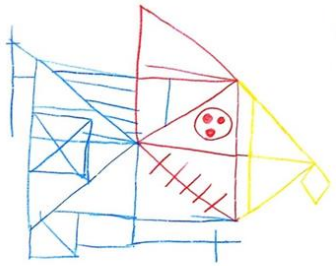
During the test Adelė didn't need individual mediation about details and characteristics of shapes, concepts of the figures or strategies. She worked independently on the models and forms. Adelė showed good perception of shape and remembered their characteristics, used the strategies learned during the mediation. Adelė worked fast, but didn't check her work.

Complex Figure Drawing

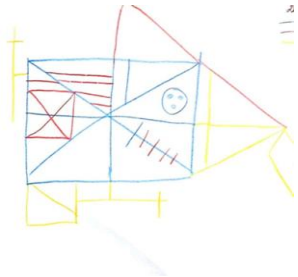
The subject is required to copy and draw from memory a complex multi-element figure. This test assesses integration and organization skills as opposed to an episodic and truncated perceptions of reality and graphic skills.

	Number of items	*Placement of items*	*Total of 36 percentage*
1st copy	*16/18*	*14/18*	*30/36=83%*
2nd copy	*18/18*	*18/18*	*36/36=100%*
Change scores (Copying) =6 (17%)			
1st memory	*8/18*	*5/18*	*13/36=36%*
2nd memory	*17/18*	*17/18*	*34/36= 94%*
Change scores (Memory) = 21 (58%)			

1st copy

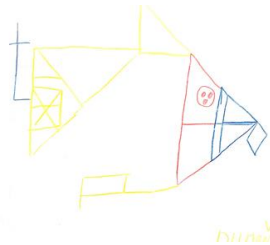


2nd copy

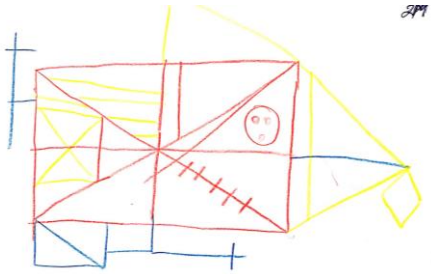


Learning (mediation)

1st memory



2nd memory



Adelė started the first copy from separate parts (without the main figure in the drawing). She was able to correctly draw the main details (30/36). In her first memory she remembered 8 elements of the complex figure (13/36). During the second copy, internalization of strategies was observed. Adelė overcame the episodic grasp of reality and became more organized in space. Her result of the 2nd copy (36/36). She started drawing from the main rectangle and was able to copy correctly most details. In the second memory phase, Adelė tried to follow the strategies given, drawing systematically form outside to inside. The following time Adelė could remember most of the details (34/36). After the mediation her feeling of competencies was higher.

In the beginning of the task, Adelė used visual strategies to cope with a complex figure. After mediation and advice to go systematically and search for relations and organization and be accurate, her results became significantly better. She showed good visual transport, openness to mediation and learning the strategies.

Raven's Standard and Coloured Progressive Matrices

Raven's Standard Progressive Matrices covers logical complex figures problems, which demand high level abstract thinking skills. Test evaluates cognitive modifiability in the area of perception, perception of Gestalt use of ordinates concepts and analogical reasoning.

Adelė answered correctly on 49 out of 60 (82%) tasks given to her. Her performance was very good.

Results

Number of items 12	**Set A**	**Set B**	**Set C**	**Set D**	**Set E**
Correct	10	12	9	9	*7*
Self-correction	1	-	1		
Wrong Answers	1	-	2	3	5

A series 11/12 (including 1 spontaneous correction). In a test that evaluates cognitive modifiability in the area of perception, perception of Gestalt to solve the problem by gathering data and systematic exploration, the student demonstrated very good abilities. Adelė answered correctly on 11 from 12 tasks.

B series 12/12. In the part which deals with orientation in space, Gestalt and analogical thinking Adelė answered correctly on 12 out of 12 tasks that were presented to her. She could recognize and define superordinate concepts and analogical reasoning.

C series 10/12 (including 1 spontaneous correction). In the series that evaluates cognitive modifiability in the perceptions, serial thinking and analogical reasoning using two sources of information, Adelė demonstrated a very good result.

D series 9/12. In series D which deals with permutations (taking all combinations of previously learned elements) good ability was observed. She understood the strategy to solve permutation and applied it to subsequent tasks.

E series 7/12. This series deals with analyses and synthesis. Adelė solved 7 problems correctly. She wrote wrong answers in the more complex and abstract tasks (9-12).

In conclusion, Adelė showed good performances and improvement as a result of general mediation. Some difficulties were observed in tasks that include many sources of information with more complex and abstract tasks.

Organizer (ORG)

This instrument presents the subject with a series of verbal statements consisting of sets of items which must be organized according to a logical system. The subject is required to place the items (colors, objects, people, etc.) in positions relative to one another according to the attributes or conditions of the statement.

Adelė solved 5 pretest tasks (5 of 5) correctly and (7 of 10) of post-test tasks. It shows good capacity to use given information for the purposes of gathering new information with the help of inferential elaboration processes, the formulation of hypotheses and tests them systematically.

16 word test

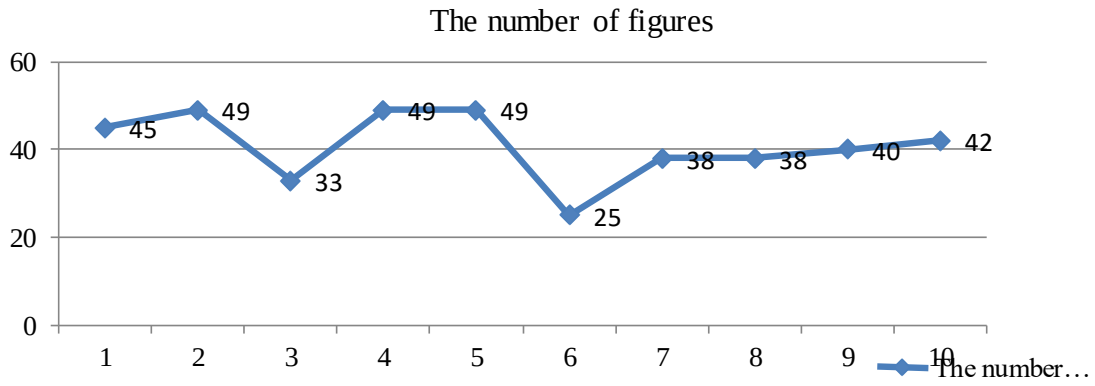
This test presents the subject with a list of 16 well known and frequently encountered words, presented orally and in a conceptually random order. The subject is asked to write as many as can be recalled following the presentation of the list with latency period of approximately ten seconds. Students were asked to write their responses on separate trials.

On the first trial Adelė remembered 7 words. On the second, she remembered 14 words, on the 3rd trial she repeated 15 words. She recalled words in the similar order as they were presented in the list. She didn't notice that words could be classified. After mediation Adelė repeated 16 words correctly in the categories of the words.

Test results show good auditory memory and good learning capabilities using groups and categories.

Lahi test

This test aims to assess attention consistency. It is made up of a row of similar figures, art of which must be marked with an x. It is a simple task to be completed within 10 minutes. This test determines the extent of the subject's work efficiency over a period of time.



Adelė completed an average of 41 figures per minute, ranging from 49 to 25. All figures Adelė marked were correct with 4 omissions. Adelė found some difficulties to remain focused on a monotonous task and to show learning progress in this task. The uneven results (up and down in the graph of performance) show that she has some difficulty concentrating and remaining consistently attentive on a given task.

3.5.2. Case of a student with learning disabilities

Name: Benas

Age: 9 years 4 months

Grade: 3

Information from teacher and parents.

Benas has difficulties to follow verbal information. Often fails to follow text read by other students. When writing, he often omits letters. He reads quite a lot, but slowly, syllable by syllable. Speaks slowly, too. He checks his exercises only after being reminded. Eagerly works in pairs, is very interested in various researches and tests performed during natural science classes, is also eager to do them at home. Very interested in IT. Finds it hard to concentrate if the class is not dynamic.

Benas' level of achievement in Mathematics is high, in Lithuanian language and Science – basic (average).

The school skills assessment during the LPAD procedures: Benas solved Mathematics tasks correctly (2 of 4) and did 30 mistakes in Writing test.

Wechler Intelligence scale for children – Third Edition Tests scores

VERBAL SCALE	Standard score	PERFORMANCE SCALE		Standard score
Information	10		Picture Completion	14
Similarities	17		Coding	10
Arithmetic	10		Picture Arrangement	12
Vocabulary	17		Block Design	19
Comprehension	14		Object Assembly	16
Digit Span	7		Symbol Search	12

Wechsler Intelligence Scale for Children (WISC-III)			
	Score	Percentile ranks	Score ranges in 95% confidence intervals
Verbal IQ	123	94	114-129
Performance IQ	132	98	121 -137
Full Scale IQ	127	96	119-132
Verbal Comprehension Index	125	95	116-130
Perceptual Organization Index	136	99	124-141
Freedom from Distractibility Index	91	27	83-102
Perceptual Organizational Index	106	66	95-115

The results of Full Scale IQ – score 127 – range in the 95% confidence interval (119-132) and show that the level of general intellectual abilities is high. There is no significant difference between the Verbal and Performace scale scores but nonverbal abilities level is higher than the level of verbal abilities. Perceptual Organization Index is higher and Freedom from Distractibility Index is lower than the mean of the 4 Indexes.

There are significant differences between subtest scores. The highest scores in Similarities (17) and Vocabulary (17) in Verbal scale and Block design subtest (19) reflect high abstract reasoning with verbal and nonverbal stimuli. Lowest score in Digit Sap (7) reflects possible problems that may occur in tasks which measure short-term sequentional auditory memory and attention.

The Results of LPAD

Organization of Dots. *The subject is required to observe an amorphous cloud of dots and discover the four dots which make the square, and three dots which make up a triangle, going on to draw the figures so that they match the given model. This test demands compliance with the model, comparison, planning, strategy development, and graphic skills.*

The result – 78/80 (including 1 spontaneous correction, 1 intervention). Benas completed the task in 27 minutes. During the test Benas didn't need mediation about details and characteristics of shapes, concepts of figures. He knew geometric shapes and their properties. He worked independently on the models and forms. Visual–motor coordination is appropriate for the task, but lines and angles of figures were not precise or accurate.

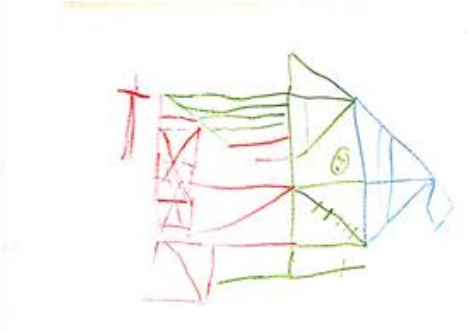
Benas showed good perception of shape and remembered their characteristics, showed good visual transport and ability to learn effective strategies.

Complex Figure Drawing

The subject is required to copy and draw from memory a complex multi-element figure. This test assesses integration and organization skills as opposed to an episodic and truncated perceptions of reality and graphic skills.

	Number of items	*Placement of items*	*Total of 36 percentage*
1st copy	*17/18*	*15/18*	*32/36=83%*
2nd copy	*16/18*	*16/18*	*32/36=100%*
Change scores (Copying) =0 (17%)			
1st memory	*14/18*	*13/18*	*27/36=33%*
2nd memory	*17/18*	*15/18*	*33/36= 94%*
Change scores (emory) = 5 (61%)			

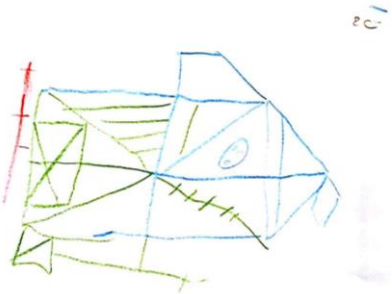
1st copy



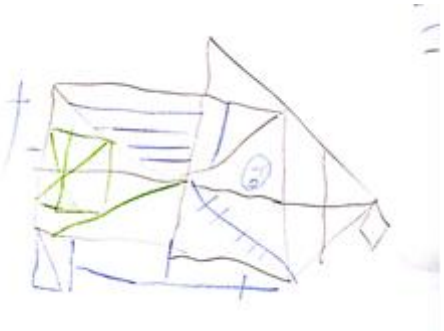
2nd copy

Learning (mediation)

1st memory



2nd memory



Benas started the first copy from separate parts (without the main figure in the drawing). He was able to correctly space most of the details (32/36). During this work Benas showed summative behavior (he counted the lines), but he wasn't very accurate. In his first memory he remembered 14 elements of the complex figure (27/36). During the second copy Benas drew the same figure as in the first copy. Benas didn't overcome the episodic grasp of reality and didn't become more organized in space. In the second memory phase Benas didn't follow the strategies given to draw systematically form the outside to inside clockwise, etc. He drew quickly, but not precisely (33/36) (missing some parts of figures, with not exact positions). On the following try Benas could remember most of the details (33 /36).

In the beginning of the task Benas used visual strategies to cope with a complex figure, drew it inaccurately. After mediation to go systematically and search for relations, be accurate, his results didn't become significantly better. He didn't use the given mediation and strategies.

Raven's Standard and Coloured Progressive Matrices

Raven's Standard Progressive Matrices covers logical complex figures problems, which demand high level abstract thinking skills. Test evaluates cognitive modifiability in the area of perception, perception of Gestalt use of ordinates concepts and analogical reasoning.

Benas answered correctly on 42 out of 60 tasks given to him. His performance was good (70 %).

Results

Number of items 12	**Set A**	**Set B**	**Set C**	**Set D**	**Set E**
Correct	12	11	8	8	3
Self-correction	-	-			
Wrong Answers	-	1	4	4	9

A series 12/12. In a test that evaluates cognitive modifiability in the area of perception, perception of Gestalt to solve the problem by gathering data and systematic exploration, the student demonstrated very good abilities. Benas answered correctly on 12 out of 12 tasks.

B series 11/12. In a part which deals with orientation in space, Gestalt and analogical thinking Benas answered correctly on 11 out of 12 tasks that were presented to him.

C series 8 /12. In series C that evaluates cognitive modifiability in perceptions, serial thinking and analogical reasoning using two sources of information, Benas showed good results.

D series 8/12. In series D which deals with permutations (taking all combinations of previously learned elements) good ability was observed. Benas understood the strategy to solve permutation and applied it to subsequent tasks rather successfully.

Series E 3/12. This series deals with analyses and synthesis. Benas has difficulties with more complex and abstract tasks.

In general, Benas has some difficulties with tasks that include many sources of information and with more complex and abstract tasks.

Organizer (ORG)

This instrument presents the subject with a series of verbal statements consisting of sets of items which must be organized according to a logical system. The subject is required to place the items (colors, objects, people, etc.) in positions relative to one another according to the attributes or conditions of the statement.

Benas solved 2 pretest tasks (2 out of 5) and 2 post-test tasks (4 out of 10) correctly. It shows possible challenges for the student to use given information in text for the purposes of gathering new information, in the formulation of hypotheses and in testing them systematically.

16 word test

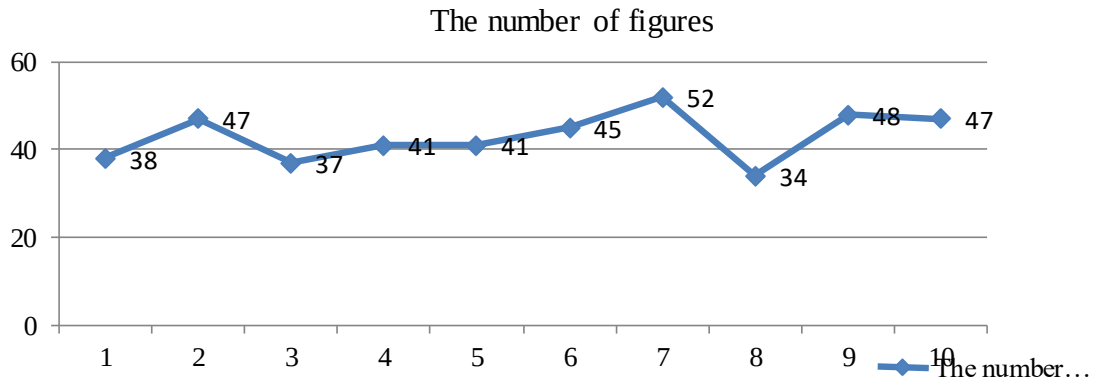
This test presents the subject with a list of 16 well known and frequently encountered words, presented orally and in a conceptually random order. The subject is asked to write as many as can be recalled following the presentation of the list with latency period of approximately ten seconds. Students were asked to write their responses on separate trials.

On the first trial Benas remembered only 4 words. On the second, he remembered 6 words, and on the 3rd trial he repeated 10. Benas didn't notice that words can be classified. After mediation Benas repeated 11 words correctly in categories, except the category of animals.

Results of the test show that categorization can improve auditory memory and can help memorize the words.

Lahi test

This test aims to assess attention consistency. It is made up of a row of similar figures, art of which must be marked with an x. It is a simple task to be completed within 10 minutes. This test determines the extent of the subject's work efficiency over a period of time.



Benas completed an average of 43 figures per minute, ranging from a high of 52 to a low of 34. All figures that Benas marked were correct, with only 1 omission.

Benas didn't find it difficult to remain focused on a monotonous task. Benas can stay concentrated and remain consistently attentive on a given task, presented in visual mode.

3.5.3. Case of a student with self regulation problem

Name: Ieva

Age: 9 years 2 months

Grade: 3

Information from teacher and parents.

Ieva is quick to perform tasks, fails to check them and leaves a lot of mistakes. She works very fast, but inattentively. Although she tends to work fast, she has a system. Is rather quick to learn, reads a lot. Wants to spend more time playing than doing homework or studying.

Wechler Intelligence scale for children – Third Edition

VERBAL SCALE	Standard score	PERFORMANCE SCALE		Standard score
Information	9		Picture Completion	12
Similarities	11		Coding	12
Arithmetic	13		Picture Arrangement	15
Vocabulary	11		Block Design	14
Comprehension	14		Object Assembly	13
Digit Span	10		Symbol Search	14

Wechsler Intelligence Scale for Children (WISC-III)			
	Score	Percentile ranks	Score ranges in 95% confidence intervals
Verbal IQ	110	74	102-117
Performance IQ	124	95	114 -130
Full Scale IQ	118	88	111-123
Verbal Comprehension Index	108	70	100-115
Perceptual Organization Index	124	95	113-130
Freedom from Distractibility Index	109	73	98-117
Perceptual Organizational Index	117	87	105-124

The result of Full Scale IQ score ranges in the 95% confidence interval (123-138) and shows that the level of general intellectual abilities is average to high. There is no significant difference between the Verbal and Performance scale scores. Verbal and Performance skills are developed in the same level. There are no significant differences between the mean of the Indexes as well as among Verbal Comprehension Index, Perceptual Organization Index, Freedom from Distractibility Index and Perceptual Organizational Index and subtests.

Results of LPAD

Organization of Dots. *The subject is required to observe an amorphous cloud of dots and discover the four dots which make the square, and three dots which make up a triangle, going on to draw the figures so that they match the given model. This test demands compliance with the model, comparison, planning, strategy development, and graphic skills.*

Ieva drew the figures correctly (connected the dots appropriately). The result – 80/80 (including 1 spontaneous correction); Ieva completed the task in 25 minutes. During the test Ieva didn't need individual mediation about details and characteristics of shapes, concepts of the figures or strategies. She worked independently on the models and forms. Ieva showed good perception of shape and remembered their characteristics throughout the test, projecting the virtual relationships. Ieva persisted until the end, was accurate and motivated to correct herself.

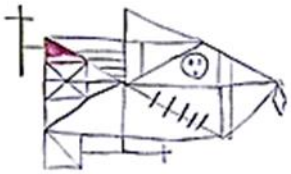
Ieva showed good perception of shape and remembered their characteristics throughout the test, projecting the virtual relationships. Ieva showed good visual transport and ability to learn effective strategies. Ieva persisted until the end and became more accurate and motivated to correct herself.

Complex Figure Drawing

The subject is required to copy and draw from memory a complex multi-element figure. This test assesses integration and organization skills as opposed to an episodic and truncated perceptions of reality and graphic skills.

	Number of items	*Placement of items*	*Total of 36 percentage*
1st copy	*16/18*	*15/18*	*31/36=86%*
2nd copy	*18/18*	*18/18*	*36/36=100%*
Change scores (Copying) = 5 (14%)			
1st memory	*2/18*	*1/18*	*3/36=8%*
2nd memory	*18/18*	*18/18*	*36/36= 100%*
Change scores (Memory) = 30 (92%)			

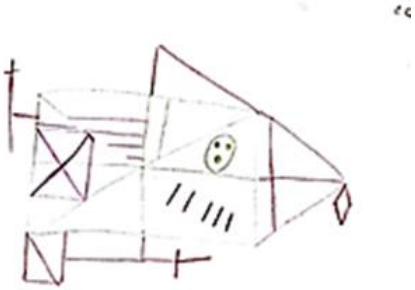
1st copy



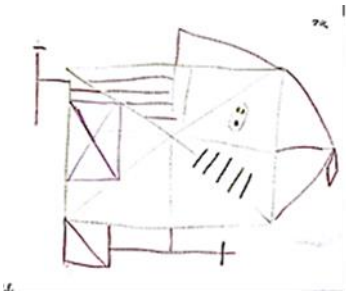
1st memory

Learning (mediation)

2 nd copy



2 nd memory



Ieva started the first copy from separate parts (without the main figure in the drawing). She was able to correctly space most of the details (31/36). In her first memory she remembered only 2 elements of the complex figure (3/36). Ieva was open to mediation. During the second copy internalization of strategies was observed. Ieva overcame the episodic grasp of reality and became more organized in space. Her result of the 2nd copy w as 36/36. She started to draw from the main rectangle and was able to copy correctly most of the details. In the second memory phase Ieva followed the strategies given to drawg systematically form outside to inside clockwise. She draw it quickly and precisely (36/36) On the following try Ieva could remember all the details (36/36). Ieva noticed the importance of strategy to go systematically, find relations and be accurate.

In the beginning of the task Ieva used visual strategies to cope with the complex figure. After mediation to go systematically, search for relations and be accurate her results became significantly better. She showed good potential to learn new information and learning strategies.

Raven's Standard and Coloured Progressive Matrices

Raven's Standard Progressive Matrices covers logical complex figures problems, which demand high level abstract thinking skills. Test evaluates cognitive modifiability in the area of perception, perception of Gestalt use of ordinates concepts and analogical reasoning.

Ieva answered correctly on 44 out of 60 tasks given to her. Ieva's performance was very good (73 %).

Results

Number of items 12	**Set A**	**Set B**	**Set C**	**Set D**	**Set E**
Correct	10	12	8	10	3
Self-correction	1	-	-		
Wrong Answers	1	-	4	2	9

A series 10/12 (including 1 spontaneous correction). In a test that evaluates cognitive modifiability in the area of perception, perception of Gestalt to solve the problem by gathering data and systematic exploration, Ieva answered correctly on 11 out of 12 tasks.

B series 12/12. In part which deals with orientation in space, Gestalt and analogical thinking Ieva answered correctly on 12 out of 12 tasks that were presented to her.

C series 8/12. In series C that evaluates cognitive modifiability in perceptions, serial thinking and analogical reasoning using two sources of information, Ieva solved 8 tasks correctly out of those presented to her.

D series 10 /12. In series D which deals with permutations (taking all combinations of previously learned elements) good ability was observed. She understood the strategy to solve permutation and applied it to subsequent tasks.

Series E (3/12) deals with analyses and synthesis. Afterwards Ieva needed a mediation with more complex and abstract tasks.

Organizer (ORG)

This instrument presents the subject with a series of verbal statements consisting of sets of items which must be organized according to a logical system. The subject is required to place the items (colors, objects, people, etc.) in positions relative to one another according to the attributes or conditions of the statement.

Ieva solved 3 pretest tasks (3 out of 5) and 2 (6 of 10) post-test tasks correctly. It shows good capacity to use given information for the purposes of gathering new information with the help of inferential elaboration processes, the formulation of hypotheses and ability to test them.

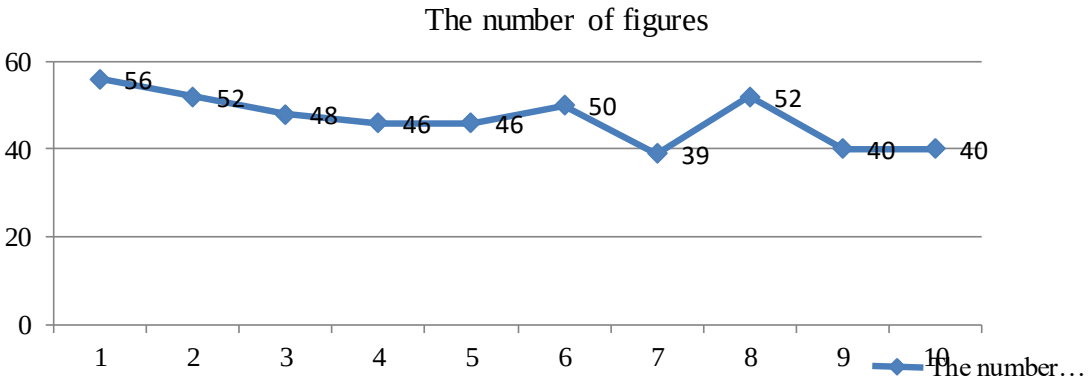
16 word test

This test presents the subject with a list of 16 well known and frequently encountered words, presented orally and in a conceptually random order. The subject is asked to write as many as can be recalled following the presentation of the list with latency period of approximately ten seconds. Students were asked to write their responses on separate trials.

On the first trial Ieva remembered 6 words, on the second – 8, and on the 3rd trial she repeated 9 words. She didn't notice that words can be classified. After mediation Ieva repeated 14 words correctly in the categories of the words. The test results show good auditory memory and good learning capabilities using groups and categories.

Lahi test

This test aims to assess attention consistency. It is made up of a row of similar figures, art of which must be marked with an x. It is a simple task to be completed within 10 minutes. This test determines the extent of the subject's work efficiency over a period of time.



Ieva completed an average of 47 figures per minute, ranging from a high of 56 to a low of 39. All figures that Ieva marked were mostly correct (only 1 error), however, there were a number of omissions (ranging from 1 to 2). Ieva didn‘t find it difficult to remain focused on a monotonous task. She stayed concentrated and remained consistently attentive on a given task.

In summarizing, the analysis of separate 3 students shows the need to evaluate every student individually and to seek understand all the profile of every separate student individually. There are many factors such as perfectionism, learning difficulties and self regulation problems can mask student intelligence and achievements, and variables differ from person to person.

IV. Recommendations and discussions

4.1. Traditional testing: issues, concers and conlusions

Learning is complex and so is the problem of assessing it well. Traditional intelligence tests can answer questions related to a child's relative strengths and weaknesses when compared to age or grade-level norms, and a score reflects what an individual knows as a result of past experience.

According to our research results, CPM as screening tests can be used in screening of gifted students with higher non verbal reasoning ability. Data from the screening phase shows the importance to provide the possibility for all classes and for all the students in the class to participate as much as possible and later to use the lower cut off (CPM result 75 percentile and higher) and to consider and form a bigger "pool" of gifted students. Using this tests we can identify students, who can be nominated as gifted later.

The results of WISC test in 3 groups (according IQ) shows the possible situation of identification of students with very high intellectual abilities in school. Only 1 of 51 students have very high intellectual abilities (as normal distribution of the gifted children in population).

WISC –III subtests measure general intelligence , o *g.* Over- all, the WISC- III is a fair measure of g , with 43 % of its variance attributed to *g*. Children with high IQ gained higher scores in Vocabulary, Information, Similarities. Block design , Arithmetic and Comprehension subtests which are good measures of g factor and have higher loadings (Sattler, 2001). The results of our research show the same tendency and most of students with high IQ gained higher scores in these subtests.

As noted Brown and Yakimowski (1987), the use of typical subtest pattern can be a better indicator of giftedness than the frequent practice of using cut- off criteria based on IQ scores. Therefore, better criterion evidence of giftedness might consist of the following:

- A discrepancy between verbal and performance IQ when one is greater than 130 and especially so when the verbal IQ is higher.\

- Variability among the index scores with lower scores on the Processing Speed Index or
- Use of Verbal Comprehension Index of the WISC-III as a better indicator of giftedness than the FSIQ because it is less affected by speed of performance (Wilkinson, 1993)

Tests can be part of the process, however, they provide a restricted view of the individual's potential. Future learning is not perfectly predicted by knowing how much has already been learned, especially given unequal opportunities to learn. Educational psychologists have come to recognize the many flaws in IQ measures, the limited relationship between scores and instructional practices, their emphasis upon products rather than processes. Traditional testing can underestimate the intellectual potential of linguistically or socio-economically different children, or student‘s test scores could be reduced by gaps in knowledge rather than ability because they had not had equivalent opportunities to learn information derived from mainstream culture represented in the tests' items (Kanevsky, 2000).

4.2. Dynamic assessment: issues, concerns and conclusions

Traditional intelligence tests can answer questions related to a child's relative strengths and weaknesses when compared to age or grade-level norms. In contrast, dynamic measures of learning potential involve supporting the child's efforts to perform the 'test' task. They are most "concerned with the different ways in which individuals who earned the same (static) score achieved that score. Dynamic assessment is a methodology, not a complete identification procedure and can act as one dimension of multi-dimensional identification procedure. Dynamic assessments focus on what children can learn (rather than what they do not know) and can be tailored to a child's unique personality and/or preferred learning styles.

Research has shown generally that standardized intelligence tests scores underestimate the abilities of children who come from low socioeconomic levels or who have leaning difficulties. The highest pre to post teaching gains were found among the disadvantaged and advantaged groups (Haywood and Tzuriel, 2002). So Learning propensity assessment device

(LPAD) studies have focused on the relationships between gain scores and traditional measures of cognitive ability, school performance, and temperament to employ a multitude of instruments and procedures to locate the 'hidden talents' of students who are currently under-represented in programs for gifted student.

Dynamic assessment researches in gifted sample shows the high IQ students start with a significantly higher performance level and shows significantly higher improvement than those of average intelligence. Findings support studies which argue that intelligence implies capacity of learning and metacognition (Dolores Calero M. et all, 2011). In general, high IQ students not only demonstrate high performance but also o have a high capacity to learn. The analysis of separate students in our data shows the need to evaluate every student individually, how and how much scores did he gain and to seek understand all the profile of every separate student individually. There are many factors that mask student intelligence and achievements and these variables differ from person to person.

Research data shows, post teaching performance reflects children's abilities much more accurately than does pre teaching performance and the effects of teaching on improvement of performance has been revealed more clearly in difficult tasks than in easy tasks (Haywood and Tzuriel, 2002). Similar, in our research one of the Instruments in LPAD assessment (Organizer) was the best indicator of high level of abstract thinking and students with high IQ in the first 2 groups gained more scores in this task. This instrument shows how student solve these problems, how he gather information, use several sources of information, use strategies of hypothesis- testing, inferential thinking, logical evidence, planning and overcome blocking created by task complexity.

Another aspect of assessment of gifted children is ceiling effect. The range of tasks and materials available is limited and those that are available may have ceilings so low that they are ineffective with high functioning students.

Haywood and Lidz (2007) characterize dynamic assessment as an interactive process between examiner and examinee with the goal of identifying pathways to the examinee’s success. Processes central to dynamic assessment include identifying obstacles to more effective learning and performances, finding ways to remove obstacles on subsequent learning and performance.

Specialists has to concentrate on assessment using some qualitative criteria of the developmental stages of different functions, their interactive relationships, and individual profiles of processing capabilities. This information can contribute to educational planning in ways that group test scores and gain scores cannot (Kanevsky, 2000). In our opinion, research the group assessment had the positive more possibilities to explore student‘s learning and processes in the classroom. in teaching situations, such as in school than individually.

So, dynamic assessment in ways are complementary to other commonly used methods including standardized testing Thus, dynamic assessment adds to and should not distract from well-known assessment methods. Dynamic assessment can be designed to provide static and dynamic results, thereby reducing the need for separate static tests of domain knowledge.

In addition Tzuriel (1992)points out that DAs can reduce the 'communication gap' that often exists between educators and psychologists when discussing the results of a student's assessment. Instead of talking with teachers about remote concepts that mainly concern psychologists (e.g. discrepancy between verbal and performance scales, the psychological meaning of figure drawings). I can talk about learning processes, behaviour problems that might affect learning, mediational styles, strategies for effective change, and the educational philosophy that I believe should be adopted in dealing with learning problems" (Kanevsky, 2000). Psychologist are now more less likely to ask ,, how can we most appropriately sort ad classify children? , but rather ’’ how do we teach this child’’ and how can we help regular classroom teachers individualise their programs? (Lidz, 1997)

So, dynamic assessment approach that has great intuitive appeal for many professional psychologist and teachers and is becoming an increasingly important movement among psychologist and educators. The flexibility of the test - learn - test paradigm offers teachers, psychologists and researchers opportunities better understand not only learning process of the students, but at the same time its role in talent development.

Conclusions

1. Both static and dynamic measures are necessary when generating a diagnostic profile for a student and both can make valuable contributions to identification and education.

2. Dynamic assessment can yield knowledge that would be unobtainable or would be much more difficult to obtain form static, normative test are more related to subsequent learning and performance in teaching situations, such as in school.

3. Dynamic assessment can provide important information about the results of a student's learning processes, behaviour problems that might affect learning.

4. Dynamic assessment can strengthen the theoretical and practical foundations of gifted education.

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